This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-10 (canceled).

11(new). A method of enhancement of electrical conductivity for a conductive polymer by use of field effect control which comprises the following steps:

(a) subjecting a substrate surface to a microwave plasma field treatment to facilitate the conductive polymer monomer, dimer, oligmer or polymer being positional absorbed;

(b) a precise coating method by applying a field functional control is on the surface of substrate treated by microwave plasma field was homogeneously coated with a conductive polymer solution to form a positional order stacking molecular structure for a conductive polymer film;

(c) employing a molecular structure ordered field control and a self-stacking field control during the coating process by subjecting it to an electromagnetic combination field to maintain and to strengthen the position and orientation ordered and stacking molecular structure of the conductive polymer to control and to increase the electrical conductivity for conductive polymer.

12(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein the conductive polymer is polyaniline, polypyrrole, or polythiophene.

13(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein the substrate surface treated

by a microwave plasma field of (a), the power of this microwave field is >1 watts, the current of electrical field is >0.1 amperes, and the magnetic field is >500 gauss.

14(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein said the substrate surface treated by a microwave plasma field of (a), the excited plasma gas is oxygen, argon, hydrogen, carbon tetrafluoride, or other activated gas.

15(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein the precise coating engineering with field functional control of (b), the field is microwave field, electrical field, magnetic field, or fluid force field individually, or two combination, or three combination, or total combination mechanism function.

16(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein said the precise coating engineering with field functional control of (b), the precise coating engineering is a containing electrical field, magnetic field, or fluid force field combinational field function coating tool and coating control system, the coating thickness is in the range of 100Å ~ 100 μm.

17(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein said the molecular structure sequential ordered and a self-stacking field control of (c), the field control is the combination of electrical field and magnetic field, or a combination of electrical field, magnetic field, and fluid force field.

18(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 12 wherein the aniline compound forming

the polymer is an substituted alkyl, alkoxy, aryl, hydroxyl, amino, or halogen with a hydrogen atom or more hydrogen atoms on aniline.

19(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 2 wherein the oxidant is potassium bichromate, ammonium persulfate, hydrogen peroxide, ceric sulfate, or chromic chloride.

20(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 12 wherein the blending agent is selected from the group consisting of a series of aromatic protic acids.

21(new). A method of enhancement of electrical conductivity for conductive polymer by use of field effect control of claim 11 wherein the conductive polymer is the polyaniline structural composition comprising aniline, oxidant, and blending agent.

22(New) A method of claim 18 wherein the aniline compound is 2- or 2,5-substituted methyl anilines, 2- and 2,5-substituted ethyl or propyl anilines, 2-substituted methoxy or ethoxy anilines, 4-phenyl substituted anilines, 2-chloro, 2-fluoro substituted anilines, 2- and 4-amino substituted anilines, or 2- and 4-hydroxyl substituted anilines.

23(New) A method as claimed in claim 22 wherein hydrogen atoms on the nitrogen position of the aniline rings are substituted by methyl, propyl, butyl, or phenyl groups.

24(New). A method of enhancement of electrical conductivity for conductive polymer by use of filed effect control of claim 20 wherein the blending agent is benzenesulfonic acid (BSA), dodecylbenzenesulfonic acid (DBSA), p-toluenesulfonic

acid (PTSA), nitrobenzenesulfonic acid, naphthalenesulfonic acid, or 10-camphor-sulfonic acid